

Mallophaga from Birds and Mammals.

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The following determinations, with description of one highly interesting new species, of *Mallophaga* are based on a small collection of these parasitic insects taken from various birds and one mammal, by Mr. Allen H. Jennings in the Panama Canal Zone. The specimens were sent us by Dr. S. T. Darling, Chief of Laboratory in Ancon Hospital, Ancon, Canal Zone, Isthmus of Panama.

Lipeurus baculus Nitzsch.

Specimen from the domestic pigeon (Canal Zone, Panama).

Lipeurus assessor Giebel.

Specimens from the turkey buzzard, *Cathartes aura*, (Canal Zone, Panama). Kellogg has recently recorded (Science, N. S. V. 31, pp. 783-784, 1910) this well-marked *Lipeurus* from the Californian condor, *Gymnogyps californianus*, and Carriker has taken it from the king vulture *Gypagus papa* in Costa Rica, while Giebel described it originally from the South American condor, *Sarcorhamphus gryphus*. It is thus a characteristic parasite of the greater American vultures. Osborn found a *Lipeurus* on turkey buzzards, *Cathartes aura*, at Ames, Iowa, but described it as a new species, *marginalis* (Ohio Naturalist, v. 2, p. 176, 1902). Specimens from the Canal Zone buzzards cannot, however, possibly be assigned to Osborn's species despite their agreement with it, and disagreement with typical *assessor*, in the matter of size. The characteristic strong medium and transverse abdominal markings of *assessor* (absent in *marginalis*) are plainly in evidence. If Osborn were a less careful systematist or less acquainted with the *Mallophaga*, we might suspect the two female specimens on which he established *marginalis* of being immature *assessors*. But as a matter of fact Osborn is both careful and well acquainted with the *Mallophaga* while, in addition, his description of the markings, confined to the lateral margins, indicates maturity of the specimens.

The small size of our specimens of *assessor* from the turkey buzzard, only two-thirds the ordinary *assessor* dimensions, should be noted perhaps by a varietal name, as *minor*.

***Lipeurus heterographus* Nitzsch.**

Specimens from the domestic chicken (Canal Zone, Panama).

***Lipeurus variabilis* Nitzsch.**

Specimens from the domestic chicken (Canal Zone, Panama). They seem to be Piaget's variety *gamma* recorded by him from certain pheasants, but if we should undertake in seriousness to subdivide this very variable species, *variabilis*, into its varieties, it would lead to senseless pages of variation describing.

***Goniocotes gigas* Taschenberg.**

Specimens from domestic chicken (Canal Zone, Panama).

***Laemobothrium delogramma* Carriker.**

One male and two females from the turkey buzzard, *Cathartes aura* (Canal Zone, Panama). The three specimens are larger than Carriker's measurements for the species. The male is 9 mm. long and the females 10 mm. each. The male is also considerably darker and more nearly wholly covered by markings than Carriker's description calls for. But on the whole if *delogramma* is a good species, and it seems to be our specimens should be assigned to it. It is a species certainly not far removed from Kellogg's *L. gypsis* from a griffon vulture, *Gyps kolbi*, from the Eastern Transvaal.

***Colpocephalum kelloggi* Osborn.**

Specimens from the turkey buzzard, *Cathartes aura* (Canal Zone, Panama). The species was described from specimens taken on the same host in Iowa and Nebraska.

***Colpocephalum longicaudum* Nitzsch.**

Specimen from a "fly catcher" (Canal Zone, Panama).

***Menopon alternatum* Osborn.**

Specimens from the turkey buzzard, *Cathartes aura*, (Canal Zone, Panama). The species was described from specimens from the same host from Iowa and Nebraska.

Menopon pallidum Nitzsch.

Specimen from the domestic chicken (Canal Zone, Panama).

Menopon incertum Kellogg.

Specimen from a "fly catcher" (Canal Zone, Panama).

Kellogg has recorded the species from several passerine birds from California and from twenty different bird species, mostly passerine, from the Galapagos Islands.

Menopon jenningsi n. sp. (Fig. 1.)

Specimens, male and females, from a guinea pig, *Cavia cobaya*, (Canal Zone, Panama). This is the third *Menopon* species to be recorded from a mammal. *Menopon* is a two-clawed genus and ought to be found only on birds. As a matter of fact all but three of its more than two hundred species are limited to birds. The other two besides this present new one recorded from mammals are Piaget's *extraneum* and *longitarsus*.

Of these two the first was described by its discoverer from the guinea pig and the second from *Halmaturus giganteus*, a large kangaroo. Curiously our new species, also from the guinea pig, does not at all resemble Piaget's *extraneum* from the same host, which is indeed quite of the usual bird-infesting *Menopon* type. But our species does show points of resemblance with the odd, aberrant species *longitarsus* from the kangaroo. Both *longitarsus* and our species have a curious superficial likeness to species of the typical guinea pig-infesting, one-clawed *Mallophaga* of the genus *Gyropus*.

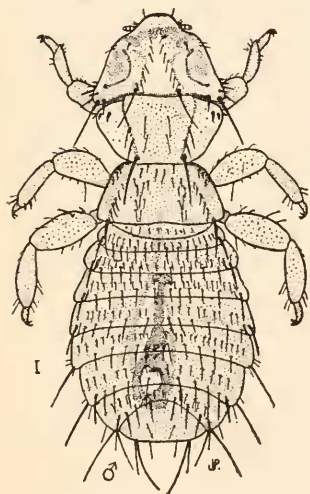


Fig. 1.—*Menopon jenningsi* n. sp.

There seems to be an actual modification of these *Menopon* species of aberrant host habits toward the *Gyropus* species typical of the same hosts. Yet one of the mammal-infesting *Menopon* species is not at all modified in this way. Is its adoption of a mammal host a more recent matter, perhaps?

Description of male.—Length, 1.6 mm.; width, .64 mm. across abdomen; general color pale, with light yellow on thorax and abdomen. Head: Length, .3 mm.; width, .48 mm.; front rounded; sides concave opposite the mandibles, then expanding before the antennae; remainder of margin slightly concave; posterior angles narrowly rounded. There are several minute hairs on the front; five short spines around the posterior angles, one of which, on the posterior margin, is very heavy; also one long spine on the posterior angle; a row of short spines on the dorsal surface extending from the mandibles along the faint occipital bands to the posterior margin with the marginal spine of this series long and heavy; occiput slightly sinuous.

Thorax.—Length, .44 mm.; width, .24 mm.; pro- and metathorax similar, the metathorax resembling the prothorax inverted; prothorax slightly longer and slightly narrower than the metathorax. Four short, stout spines at the anterior angle of the prothorax; two narrow longitudinal chitinous bands parallel to the margin on the prothorax with a long heavy spine arising at the posterior termination of each band. Two long heavy spines occur in the same relative position on the metathorax. Other spines as shown in the figure. There are numerous heavy spines on the ventral surface of both head and thorax. Legs pale in color.

Abdomen.—Length, .8 mm.; width, .6 mm., oval. An indistinct yellowish band and two rows of spines on each segment except the last; a heavy, long spine on each posterior lateral angle, except the last three, where two occur; length and strength of spines increasing posteriorly, those of the last segments being very heavy and long. Genitalia dark and conspicuous, extending almost to the thorax, and of unusual type.

Female.—Length, 1.72 mm.; width across abdomen, .68 mm. A fringe of fine hairs occurs on each side of the ventral surface of the last segment of the abdomen; this segment is rounded.

Gyropus ovalis Giebel.

Specimen from a guinea pig, *Cavia cobaya*, (Canal Zone, Panama).

Trichodectes sp.

A single poor specimen from a rat, *Mus rattus* (Canal Zone, Panama). Also two specimens of a wingless Psocid (Atropidae) were sent with the lot labelled "parasites from *Mus rattus*." It would be very interesting if we could know that these Atropids were really living on the rats feeding on the hair or dermal scales. Kellogg has found Atropids in rats'

nests and bird nests living undoubtedly on the loose hairs, feathers and dermal exuviae. It is his belief, based primarily on certain striking facts of morphology, that the *Mallophaga* are degenerate descendants of the Psocidae (see Psyche, v. 9, pp. 339 ff., 1902).

New North American Cossidae.

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In anticipation of a revision of North American Cossidae, on which we are at present engaged, and in which we propose to figure all the species, we append descriptions of several new species which have recently been received by us. The types of all these are contained in Dr. Barnes' Collection.

Givira minuta, n. sp.

♂.—Front, white; antennae, slightly bipectinate, shaft white. pectinations brown; thorax gray, sprinkled with black, patagia and meta-thoracic tuft reddish-brown; abdomen smoky gray, with small black lateral tufts on third segment and prominent reddish-brown anal tuft; primaries light ochreous-brown, shaded with fuscous beyond cell, and with a broad creamy costal margin; on costa at base of wing is an indistinct smoky brown spot, followed outwardly by a large semi-triangular spot of same color, extending from costa to second anal vein, the apex situated at a point just below median vein, costal angle sharp, lower angle rather blunt and preceded by slight reddish scaling; a row of brown spots along costa of which those situated near apex are largest; a smoky brown patch in cell and a somewhat larger one situated between the base of second cubital and the second anal vein; on inner margin directly below this patch a minute circular patch of similar color, portion between this and base of wings containing several fine transverse striations; beyond these two patches a distinct whitish shade extending nearly to anal angle; an oblong reddish bar at end of cell, defined slightly by lighter; subterminal space from costa to vein Cu. with a series of large irregular smoky brown blotches, that between veins M₁ and M₂ being the smallest and followed by a white patch extending to margin of wing; some indistinct terminal black scaling, followed by a fine terminal line of a light ochre color; fringes checkered brown and white with dark basal line; secondaries dark smoky brown, lighter on costa, with very faint traces of scattered striations and a light ochre terminal line; fringes checkered, with dark basal line. Beneath dark smoky brown with an ochreous terminal line to both wings and the markings of upper side